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USACE / CESAJ

DEPARTMENT OF THE ARMY **CESAJ 35 20 23 (Apr 2006)**
U.S. ARMY CORPS OF ENGINEERS

JACKSONVILLE DISTRICT LOCAL MASTER GUIDE SPECIFICATION

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SECTION 35 20 23

DREDGING
11/08

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NOTE: This guide specification covers the requirements for dredging.

Comments and suggestions are welcome. Using e-mail for feedback is encouraged. Comments should be directed to:

Engineering Division, Design Branch, Specifications Section.

ALL COMMENTS RECEIVED WILL BE DISSEMINATED TO THE PROPER OFFICE FOR RESPONSE.
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PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials, and equipment, and performing all excavation and disposal of all material as specified herein or indicated on the drawings. This scope also includes all necessary measures for protection of the environment. Environmental protection requirements under this contract are as important to overall completion of the work as other technical aspects. Failure to meet the requirements of these specifications for environmental protection may result in work stoppages or termination for default. No part of the time lost due to any such work stoppages shall be made the subject of claims for extensions of time or for excess costs or damages by the Contractor. If the Contractor fails or refuses to promptly repair any damage caused by violation of the provisions of these specifications, the Contracting Officer may have the necessary work performed and charge the cost thereof to the Contractor.

1.2 REFERENCES

****
NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest change to this guide specification. During the reference reconciliation process, SPECSINTACT will automatically remove references from this paragraph that have been

removed from the text. THEREFORE, IT IS NOT NECESSARY TO EDIT THIS PARAGRAPH; IT IS DONE AUTOMATICALLY.

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The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1586	(1999) Test Method for Penetration Test and Split-Barrel Sampling of Soils

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2008) U.S. Army Corps of Engineers Safety and Health Requirements Manual
EM 1110-1-1000	(1993) Photogrammetric Mapping
EM 1110-1-1002	(1990) Survey Markers and Monumentation
EM 1110-1-1003	(1996) NAVSTAR Global Positioning System Surveying
EM 1110-1-1004	(1994) Deformation Monitoring and Control Surveying
EM 1110-1-2909	(1998; Chg 2) Geospatial Data and Systems
EM 1110-2-1003	(2002) Hydrographic Surveying

FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS (FBPSM)

FBPSM	Minimum Technical Standards, Chapters 177, 472, 61G17

TRI-SERVICE STANDARDS (TSS)

TSS	(2001) A/E/C CADD Standards

1.3 SUBMITTALS

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NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

Select appropriate Submittal for specific situation.

NOTE TO SPEC WRITER: FOR CLARITY AND TO COMPLY WITH NEW SUBMITTAL DESIGNATIONS IN CESAJ SECTION 01330 SUBMITTAL PROCEDURES, THE BELOW LISTED ADMINISTRATIVE SUBMITTALS ARE REQUIRED EITHER AFTER NOTICE OF AWARD AND PRIOR TO PRECONSTRUCTION CONFERENCE OR THEY ARE ITEMS NEEDED DURING

CONSTRUCTION.
****

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Notice of Intent to Dredge

****
NOTE: Applicable to ALL PROJECTS.
****

Prior to commencement of work on this contract, the Contractor shall notify the Commander, Seventh Coast Guard District of his intended operations to dredge and request that it be published in the Local Notice to Mariners. This notification must be given in sufficient time so that it appears in the Notice to Mariners at least two weeks prior to the commencement of this dredging operation. A copy of the notification shall be provided to the Contracting Officer.

Relocation of Navigation Aids

****
NOTE: Applicable to ALL PROJECTS.
****

The Contractor shall not remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid to navigation. Within 7 calendar days following receipt of Notice of Award, the Contractor shall notify the Commander, Seventh Coast Guard District, Miami, Florida, of his plan to dredge adjacent to any aids which require relocation to facilitate dredging. The notification shall be sent via Fax to 305-415-6757, ATTN: Mr. Joe Embres. This notification shall be immediately followed by a formal written request with a copy to the Contracting Officer. The Contractor shall also contact the U.S. Coast Guard, 305-415-6730, for information concerning the position to which the aids will be relocated.

SD-02 Shop Drawings

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NOTE: Delete (not needed) when dredging in IWW and inland navigation and flood control projects.
****

Drag Bar

Submit drawings and one photograph showing drag bar equipment used for final leveling work indicated in the paragraph FINAL EXAMINATION AND ACCEPTANCE below.

SD-07 Certificates

Electronic Tracking System Data

****
NOTE: Delete if NOT APPLICABLE.
****

The Contractor shall furnish required discs, CD-ROM, and charts to the Contracting Officer.

Equipment and Performance Data

****
NOTE: Delete if NOT APPLICABLE.
****

The Contractor shall furnish proof of electronic positioning equipment calibration to the Contracting Officer.

Historical Period Shipwreck Sites

****
NOTE: Applicable to ALL PROJECTS.
****

The Contractor shall immediately notify the Contracting Officer if any shipwreck, artifact, or other objects of antiquity that have scientific or historical value, or are of interest to the public, are discovered, located, and/or recovered.

Surveys

****
NOTE: Applicable to ALL PROJECTS; select appropriate reference.
****

The Contractor shall give [10] [7] days [3 weeks] advance notice, in writing, to the Contracting Officer of the need for a pre-dredging survey or after-dredging survey for final acceptance for each acceptance section.

Daily/Monthly Report of Operations

****
NOTE: Applicable to ALL PROJECTS; select appropriate reference.
****

The Contractor shall prepare on QCS and submit one (1) hard copy of the Daily Report of Operations, using either ENG Form No. 27A or ENG Form No. 4267, for each dredge and/or unloader working. This report shall be submitted on a daily basis and not in groups (groups = multi-days reports packaged together at one time). In addition to the daily report, the Contractor shall prepare a Monthly Report of Operations for each month or partial month's work on either ENG Form No. 27A or ENG Form No. 4267. The monthly report shall be submitted on or before the 7th of each month, consolidating the previous month's work. Upon completion of the

job, the Contractor shall submit a consolidated job report, combining the monthly reports. The Contractor shall distribute one copy of each report to the District Engineer; ATTN: CESAJ-EN-C; U.S. Army Engineer District, Jacksonville, P.O. Box 4970; Jacksonville, Florida 32232-0019. Reports shall be submitted on a monthly basis with daily reports accompanying the monthly report and job report.

Additionally, one copy of the form(s) shall be maintained by the Contractor on the dredge(s) for the Contracting Officer's inspection purpose. Further instructions on the preparation of the reports will be furnished at the Preconstruction Conference.

Misplaced Material

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NOTE: Applicable to ALL PROJECTS.
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The Contractor shall notify the U.S. Coast Guard Marine Safety Office of any misplaced material as stated in the Clause OBSTRUCTION OF NAVIGABLE WATERWAYS of Section 00700 CONTRACT CLAUSES in Volume 1.

Log of Near Beach Quality Sand Disposal

****
NOTE: Delete if NOT APPLICABLE.
****

Refer to subparagraph "Logs" of subparagraph "Near Beach Quality Sand" of paragraph DISPOSAL OF EXCAVATED MATERIAL below for submittal.

Declaration of Inspection [Stateside] [Puerto Rico] [Virgin Islands]

****
NOTE: Applicable to ALL PROJECTS; select appropriate reference in title and text.
****

Refer to paragraph FUEL OIL TRANSFER OPERATIONS below for submittal.

Surveillance of Ocean Disposal

****
NOTE: Delete if NOT APPLICABLE.
****

Refer to subparagraph "Surveillance of Ocean Disposal" of paragraph NOTIFICATION OF COAST GUARD below for submittal.

1.4 DREDGING RESTRICTIONS

****
NOTE: Delete entire paragraph if NOT APPLICABLE.
****

1.4.1 Order of Work

There is no specific order of work for this project. The dredging performed by all dredges shall be continuous within reaches approved by the Contracting Officer.

1.4.2 Hopper Restriction

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NOTE: Edit accordingly if entire paragraph is applicable.
****

The use of hopper dredges [within Kings Bay Entrance Channel] is prohibited [from 01 March through 14 December].

1.4.3 Transportation of Material

Water and dredge material shall not be permitted to overflow or spill out of barges or hopper dredges during transport to the disposal site.

1.5 SPECIAL INSTRUCTIONS

****
NOTE: Delete if not applicable.
****

Dredging of insitu rock is not required; but if encountered, the location and extent of any insitu rock above grade or required depth shall be reported to the Contracting Officer.

1.6 ORDER OF WORK

****
NOTE: Delete paragraph if NOT APPLICABLE.
****

There is no order of work specified relative to performance of the dredging.

1.7 PUMPING OF BILGES

****
NOTE: Applicable to ALL PROJECTS.
****

Contractors are warned that pumping oil or bilge water containing oil into navigable waters, or into areas which would permit the oil to flow into such waters, is prohibited by Section 13 of the River and Harbor Act of 1899, approved 3 March 1899 (30 Stat. 1152; 33 U.S.C. 407). Violation of this prohibition is subject to the penalties under the referenced Acts.

1.8 HISTORICAL PERIOD SHIPWRECK SITES

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NOTE: Applicable to ALL PROJECTS; select appropriate reference.
****

If any shipwreck, artifact, or other objects of antiquity that have scientific or historical value, or are of interest to the public, are discovered, located, and/or recovered, the Contractor acknowledges that:

a. The site(s), articles, or other materials are the property of the [State of Florida, with title vested in the Department of State, Division of Historical Resource] [Commonwealth of Puerto Rico]; and that,

b. He will immediately notify the Contracting Officer.

1.9 UTILITY CROSSINGS

****
NOTE: Delete entire paragraph if NOT APPLICABLE; however, fill in blanks IF APPLICABLE.
****

1.9.1 General

It is the Contractor's responsibility to investigate the location of all utility crossings. The Contractor shall take precautions against damages which might result from his operations in the vicinity of the utility crossings. If any damage occurs as a result of his operations, the Contractor will be required to suspend dredging until the damage is repaired and approved by the Contracting Officer. Costs of such repairs and downtime of the dredge and attendant plant shall be at the Contractor's expense.

1.9.2 Known Utility Crossings

[ ]

1.10 PERMITS

****
NOTE: Applicable to ALL PROJECTS.
****

The Contractor's attention is directed to the Clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES in Volume 1 and the paragraph PERMITS AND AUTHORIZATIONS of Section 01 57 20 ENVIRONMENTAL PROTECTION.

1.11 FUEL OIL TRANSFER OPERATIONS

****
NOTE: Applicable to ALL PROJECTS.
****

In accordance with U.S. Coast Guard regulations (33 CFR 156.120), couplings used in fuel oil transfer operations on any vessel with a capacity of 250 or more barrels of oil shall be either a bolted or full-threaded connection; or a quick-connect coupling approved by the Commandant; or an automatic back-pressure shutoff nozzle used to fuel the vessel. An executed fuel oil transfer (Declaration) form signed by the tanker operator shall be submitted to the Contracting Officer for each refueling operation. The U.S. Coast Guard shall also be notified prior to any refueling. A copy of the Declaration of Inspection for Refueling is on the

web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below.

1.12 SIGNAL LIGHTS

****
NOTE: Applicable to ALL PROJECTS.
****

The Contractor shall display signal lights and conduct operations in accordance with the General Regulations of the Department of the Army and of the Coast Guard governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65 feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working in navigable channels, as set forth in Commandant U.S. Coast Guard Instruction M16672.2, Navigation Rules: International-Inland (COMDTINST M16672.2), or 33 CFR 81 Appendix A (International) and 33 CFR 84 through 33 CFR 89 (Inland) as applicable.

1.13 NOTICE TO MARINERS -- DREDGING CONTRACTS

****
NOTE: Applicable to ALL PROJECTS.
****

Should the Contractor, during operations, encounter any objects on the channel bottom which could be a hazard to navigation, the Contractor shall immediately notify the Contracting Officer as to the location of said object and shall provide any other pertinent information necessary for the Contracting Officer to prepare and issue a Notice to Mariners.

1.14 FINAL CLEANUP

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NOTE: Applicable to ALL PROJECTS.
****

Final cleanup, as stated in the paragraph COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1, shall include the removal of all the Contractor's plant and equipment either for disposal or reuse. Plant and/or equipment and/or materials to be disposed of shall only be disposed in a manner and at locations approved by the Contracting Officer. Unless otherwise approved by the Contracting Officer, the Contractor will not be permitted to abandon any equipment in the disposal area or other areas adjacent to the worksite.

a. Failure to promptly remove all plant, pipeline, equipment, and materials upon completion of the dredging will be considered a delay in the completion of the final cleanup and demobilization work. In such case, the Government will exercise its right as stated in Clause DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES in Volume 1 to remove any plant and/or equipment and/or materials at the Contractor's expense.

****
NOTE: Measurement and Payment paragraphs are

located in Section 01270 MEASUREMENT AND PAYMENT.
****

1.15 WORK VIOLATIONS

****
NOTE: Applicable to ALL PROJECTS.
****

Work done in violation of these specifications or a verbal or written stop order of the Contracting Officer will be considered as unsatisfactory progress for purposes of progress payments in accordance with Clause PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS of Section 00700 CONTRACT CLAUSES in Volume 1.

1.16 SILENT INSPECTOR (HOPPER DREDGE ONLY)

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NOTE: Delete this paragraph if use of a hopper dredge is prohibited.
****

Silent Inspector certification is required prior to award. See provision SILENT INSPECTOR -- HOPPER DREDGES -- SPECIAL STANDARD OF RESPONSIBILITY of Section 00100 INSTRUCTIONS TO OFFERORS in Volume 1.

1.16.1 Operation of Silent Inspector

The Silent Inspector system shall be in operation for all dredging and disposal activities and shall record the full round trip for each loading and disposal cycle (NOTE: A dredging and disposal cycle constitutes the time from commencement of dredging to complete discharge of the material). The Contracting Officer shall be notified immediately in the event of Silent Inspector system failure and all dredging operations for the vessel shall cease until the Silent Inspector system is fully operational. Any delays resulting from Silent Inspector system failure shall be at the Contractor's expense.

PART 2 PRODUCTS (NOT APPLICABLE)

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NOTE: INFORMATION FURNISHED BY EN-G THAT HAS BEEN PREVIOUSLY INCLUDED AS CHARACTER OF MATERIALS PARAGRAPH IS NOW MADE A PART OF THE GEOTECHNICAL INFORMATION (CORE BORING LOGS/LABORATORY DATA) APPENDED TO SECTION 01000 GENERAL REQUIREMENTS OR SECTION 00300 INFORMATION AVAILABLE TO BIDDERS.
****

PART 3 EXECUTION

3.1 NOTIFICATION OF COAST GUARD

****
NOTE: Applicable to ALL PROJECTS.
****

3.1.1 Navigation Aids

Navigation aids located within or near the areas required to be dredged will be removed, if necessary, by the U.S. Coast Guard in advance of dredging operations. The Contractor shall not remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid of navigation.

3.1.2 Dredging Aids

The Contractor shall obtain approval from the U.S. Coast Guard for all buoys, dredging aid markers to be placed in the water, and dredging aid markers affixed with a light prior to the installation. Dredging aid markers and lights shall not be colored or placed in a manner that they will obstruct or be confused with navigation aids.

3.1.3 Surveillance of Ocean Disposal

****
NOTE: Delete if NOT APPLICABLE.
****

The Contractor shall notify the local Coast Guard Captain of the Port at least 5 calendar days prior to the first ocean disposal. The notification will be by certified mail with a copy to the Contracting Officer. The following information shall be included in the notification:

(1) Project designation; Corps of Engineers' Contracting Officer's name and contract number; and, the Contractor's name, address, and telephone number.
(2) Port of departure.
(3) Location of ocean disposal area.
(4) Quantity of material to be deposited in ocean.
(5) Schedule for ocean disposal, giving date and time proposed for first ocean disposal.

3.2 WORK AREA

****
NOTE: Applicable to ALL PROJECTS; select appropriate reference.
****

The Contractor will be permitted to exclude the public from the work areas [in the immediate vicinity of his dredging, transporting, and disposal operations] [including dredging, transporting, and disposal operations]. [The Contractor shall prevent public access to the discharge end of the pipeline. The Contractor shall erect, maintain, and move as necessary, a restrictive barrier around the discharge of the hydraulic pipeline. The barrier shall be constructed so as to prevent the public from approaching the discharge from any direction closer than 40 feet. The Contractor shall post signs in a conspicuous location with the wording "DANGER - HIGH PRESSURE DISCHARGE FROM DREDGE".] Enforcement shall be the Contractor's responsibility at no additional cost to the Government. The enforcement shall be coordinated with local enforcement agencies and will be subject to approval of the Contracting Officer. [Additionally, the Contractor shall place a safety person at the discharge end of the disposal pipeline. The safety person shall be present at all times during discharge operations and will maintain radio communication between the dredge and the disposal

operation.]

3.2.1 Access

****
NOTE: Applicable to ALL PROJECTS.
****

The Contractor shall be responsible for providing and maintaining access necessary for his equipment and plant to and from the work site, mooring area, and disposal area. The Contractor shall ascertain the environmental conditions which can affect the access such as climate, winds, currents, waves, depths, shoaling, and scouring tendencies.

3.2.1.1 Admittance to the Eastern Test Range (Cape Canaveral)

****
NOTE: APPLICABLE ONLY TO WORK PERFORMED IN AND AROUND CAPE CANAVERAL.
****

a. The work site for this contract is located on a Government reservation (Cape Canaveral) and Air Force security regulations require all individuals entering this area to have an appropriate Eastern Test Range (ETR) badge.

b. The Contractor shall designate, in writing, to the Jacksonville District Security Officer, one of the Contractor's officials (usually the Project Manager) as the Contractor's representative responsible for securing and turning in the ETR badges mentioned above. The written designation shall include the contract number, estimated commencement and completion dates, and a local mailing address and telephone number. This official may, in turn, designate two other officials of the Contractor as assistants, and these three persons, after submission of a letter of authorization by the Jacksonville District Security Officer to the Range Contractor's Pass and Identification Section, will be authorized to sign requests for issuance of ETR badges.

c. One or more of the three officials mentioned above shall contact the Pass and Identification Section, where appropriate badges will be issued by the Range Contractor. The Contractor thus verifies that the requirement for the badge and entry into Cape Canaveral is in connection with an official work assignment.

d. Upon completion of the contract, all badges must be turned in or satisfactorily accounted for. The work will not be accepted and final payment will not be made until this has been accomplished.

e. The details as to wearing of the badges and accounting for those issued shall be in accordance with job site procedures established by the Director, Security Police, U.S. Air Force. Any questions or problems concerning security procedures or the issue or turn-in of badges should be directed to the Jacksonville District Security Officer.

3.2.1.2 Missile Firings, Space Vehicle Launches, and Related Range Activities

****
NOTE: APPLICABLE ONLY TO WORK PERFORMED IN AND

AROUND CAPE CANAVERAL.
****

During the performance of the contract, there may be instances when the Contractor will be directed to suspend operations and evacuate Contractor personnel from the project site and its vicinity when Trident submarine activity at wharves, missile firings, space vehicle launches, or related range activities are scheduled. All such suspensions will be considered as unreasonable under Clause SUSPENSION OF WORK AND DEFAULT (FIXED-PRICE CONSTRUCTION) of Section 00700 CONTRACT CLAUSES in Volume 1.

3.2.2 Protection of Existing Waterways

****
NOTE: Applicable to ALL PROJECTS.
****

The Contractor shall conduct his operations in such a manner that material or other debris are not pushed outside of dredging limits or otherwise deposited in existing side channels, basins, docking areas, or other areas being utilized by vessels. The Contractor will be required to change his method of operations as may be required to comply with the above requirements. Should any bottom material or other debris be pushed into areas described above, as a result of the Contractor's operations, the same must be promptly removed by and at the expense of the Contractor to the satisfaction of the Contracting Officer.

3.2.3 Adjacent Property and Structures

****
NOTE: Select appropriate reference.
****

[No dredging will be permitted within 25 feet of any structure.] [Dredging adjacent to any structure will not be permitted any closer than that shown on the contract drawings.] Any damage to private or public property or structures resulting from the disposal or dredging operations shall be repaired promptly by the Contractor at his expense. Any damage to structures as a result of Contractor's negligence will result in suspension of dredging and require prompt repair at the Contractor's expense as a prerequisite to the resumption of dredging. [Details for dredging adjacent to structures are shown on the contract drawings.]

3.2.4 Subaqueous Cable Crossings

****
NOTE: Applicable to ALL PROJECTS.
****

The Contractor shall be responsible for verifying the locations and depths of all utility crossings and take precautions against damages which might result from his operations, especially the sinking of dredge spuds and/or anchors into the channel bottom, in the vicinity of utility crossings. If any damage occurs as a result of his operations, the Contractor will be required to suspend dredging until the damage is repaired and approved by the Contracting Officer. Costs of such repairs and downtime of the dredge and attendant plant shall be at the Contractor's expense.

3.3 DISPOSAL OF EXCAVATED MATERIAL

3.3.1 General

****
NOTE: Select appropriate reference and fill in blanks.
****

Material excavated shall be transported to and deposited in the disposal areas designated on the drawings. [The average distance to which the material will have to be transported is approximately [ ] miles and the maximum distance will be approximately [ ] miles.] [The approximate maximum and average distances to which the material will have to be transported are as follows:

Disposal Area	Maximum Distance	Average Distance
D/A-N (Nearshore)	8.5 miles	6.5 miles
D/A-O (Ocean)	13.0 miles	12.5 miles]

[The material to be excavated shall be placed in Upland Disposal Area [ ] and the [ ] beach disposal area according to the "Estimated Excavation Quantities" table on Dwg. No. [ ]. The maximum material transportation distance for Disposal Area [ ] is approximately [ ] feet and the maximum transportation distance for the [ ] beach disposal is approximately [ ] feet.]

3.3.2 [General] [Ocean Dredged Material Disposal Site (ODMDS)]

****
NOTE: Select appropriate reference and fill in blanks.
****

The material excavated [, except that material determined to contain no more than 20 percent silt (i.e., near beach quality sand),] shall be transported to and deposited in the ODMDS [offshore disposal area designated as "Ocean Disposal Area - O" as] shown on the drawings. The material shall be dumped at the center of [the ODMDS (X,Y Coordinates: [ ], [.]] ["Ocean Disposal Area - O" (coordinates X-[ ], Y-[ ]). The [plane] coordinates are based on [the Lambert Plane Rectangular Coordinate System for Puerto Rico] [Transverse Mercator Projection for Florida, East Zone]. The average distance [to which] the material will have to be transported to [the ocean disposal area] ["Ocean Disposal Area - O"] will be approximately [ ] [nautical] miles and the maximum distance will be approximately [ ] [nautical] miles. [Dredged material shall not be placed higher than elevation -30 feet MLLW in "Ocean Disposal Area - O".]

3.3.3 Upland Disposal Area

****
NOTE: Delete entire subparagraph if NOT APPLICABLE; however, select appropriate reference and fill in blanks IF APPLCABLE.
****

3.3.3.1   Maximum Height of Dredged Materials

Dredged materials and/or water shall not be placed higher than [   ] feet, NGVD, in [   ]. The Contractor shall constantly monitor the water height while pumping to insure that this clearance is maintained. Materials deposited in the disposal area above the maximum height or outside the disposal area will result in suspension of dredging operations and require the removal of such materials as a prerequisite to the resumption of dredging.

a. Drainage of areas adjacent to the diked disposal area shall not be blocked or impaired in any manner by the Contractor's operations. The Contractor shall excavate and maintain ditches necessary to prevent blocking or impairing drainage. The ditches shall be of adequate number and size to eliminate all blockage or impairment of drainage adjacent to the diked disposal area.

3.3.3.2   Disposal Area Drainage

The Contractor shall, if necessary, excavate and maintain ditches to drain all low areas in the dredged material and disposal area to the weirs. The ditches shall be of adequate number and size to eliminate all ponding of water within the limits of the disposal area.

3.3.4   Beach Disposal

****
NOTE: Typical language for use in Kings Bay.
****

Dredged material from Kings Bay Entrance Channel Cut 1-N, Station 100+00 to Station 320+00 shall be placed in Beach Disposal Area (D/A) B as shown on the contract drawings. The dredged material shall be placed to the sections and limits as shown on the drawings to the extent of the dredged material. Passage of equipment, pipeline, etc., shall be seaward of the apparent MHW within the limits of the D/A B.

3.3.4.1   Order of Placement

****
NOTE: Typical language for use in Kings Bay.
****

Dredged material shall be placed in D/A B commencing at DEP Monument R-15 and proceeding southerly until all dredged material has been placed to the sections and limits shown on the contract drawings.

a. Prior to placement of fill, the Contractor shall remove from the site of the work all snags, driftwood, and similar debris lying within the foundation limits of the beach fill section. All materials removed shall be disposed of in areas provided by and at the expense of the Contractor and approved by the Contracting Officer. Grading and other construction equipment will not be permitted outside the easement lines shown on the drawings except for ingress and egress to and from the site.

b. The excavated material shall be placed and brought to rest on the beach to the lines, grade, and cross sections indicated on the drawings, unless otherwise provided for herein or directed by the

Contracting Officer. The Contractor shall not stockpile pipe or any other equipment or debris on the beach except as approved by the Contracting Officer. The beach is subject to changes and the elevations on the beach at the time the work is done may vary from the elevations shown on the drawings. The Contracting Officer reserves the right to vary the width or grade of the berm from the lines and grade shown on the plans in order to establish a uniform beach for the entire length of the project. The beach disposal section shown on the drawing is for the purpose of estimating the theoretical amount of fill needed and will be used by the Contracting Officer in making any change in the lines and grade. The Contractor may not be able to achieve the exact disposal area shown on the drawings. He will, however, be required to move the pipeline discharge to another part of the disposal area when he has discharged the amount of dredged materials in an area that would produce that cross section. Earthen pedestrian access ramps shall be provided across the dredge discharge pipeline at 200-foot intervals. The Contractor shall monitor the dredge and fill operations and shall notify the Contracting Officer if and when the quantity to be dredged appears to be excessive for the designated beach disposal area. The Contractor will not be required to dress the fill below the water line to the slope shown but will be required to do the dressing specified in subparagraph "Dressing" below.

3.3.5 Grade Stakes

****
NOTE: Typical language for use in Kings Bay.
****

Grade stakes shall be metal pipes that can be completely removed intact by the Contractor after placement of the fill. Grade stakes shall be of sufficient length to protrude above the final berm elevation and facilitate their extraction.

3.3.6 Temporary Longitudinal Dikes

****
NOTE: Typical language for use in Kings Bay.
****

Temporary longitudinal dikes and spreader and/or pocket pipe shall be used to prevent gullying and erosion of the beach and fill and to retain the fill on the beach and within the limits of the fill cross section. As the work progresses, dikes or mounds shall be constructed along the beach to direct the pipeline discharge longitudinally along the beach to avoid transverse gullying directly from the discharge point to the ocean, and to build the new berm to design grade. Longitudinal dikes shall initially be 300 feet long in advance of filling operations. They may need to be lengthened to meet water quality standards, to build to the required lines and grades, and to keep material within the toe-of-fill. The Contractor will not be held responsible for erosion caused by waves after the beach fill has been satisfactorily placed. No undrained pockets shall be left in any fill during or upon completion of the work. The Contractor shall not permit wastewater to flow landward of the fill section or water to pond between the fill and upland. Groins, bulkheads, revetments, seawater pipe structures, and other structures within the fill section shall be protected by the Contractor to prevent damage thereof by the Contractor's operations. Any damages assessed as a result of any of the above items shall be at the Contractor's expense.

3.3.7 Rehandled Materials

****
NOTE: Typical language for use in Kings Bay.
****

Any material that is rehandled or moved and placed in its final position by methods other than hydraulic shall be placed in horizontal layers not exceed three (3) feet in thickness. Compaction of the layers will not be required. The Contractor shall schedule his operations to take advantage of tides so that filling is done in the dry or as directed.

3.3.8 Dressing

****
NOTE: Typical language for use in Kings Bay.
****

Final dressing shall not take place until all dredging is completed, at which time all evidence of haul road or pipeline shall be removed and the fill shall be graded and dressed so as to eliminate any undrained pockets and abrupt humps and depressions in the beach fill surfaces and as necessary to comply with subparagraph "Tolerances" below. Grade stakes used in the placement of the fill shall be removed intact, without breaking. All dikes shall be completely degraded. The bank caused by wave forces shall be graded down to a slope no steeper than 1 vertical on 20 horizontal for D/A B.

3.3.9 Tolerances

****
NOTE: Typical language for use in Kings Bay.
****

A tolerance of one (1.0) foot above the prescribed berm grade and slopes above the wave zone will be permitted in the final beach surface.

3.3.10 Debris Removal

****
NOTE: Typical language for use in Kings Bay.
****

The Contractor shall clean and remove from the beach disposal areas all debris that has been placed on the beach as a result of the disposal operation. The debris will be disposed of in a location provided by the Contractor and accepted by the Contracting Officer.

3.3.11 Existing Groins

****
NOTE: Delete subparagraph if NOT APPLICABLE; however, select appropriate reference and/or fill in blanks IF APPLICABLE.
****

The location of existing groins are shown on Dwg. No. [ ]. The groins are made of [sand filled geotextile fabric tubes] [ ]. The

Contractor shall take all precautions to protect the groins from damage as a result of his operations. Placement of sand around and near the groins shall be to the general lines and grades shown on the drawings unless directed otherwise by the Contracting Officer. If any damage occurs as a result of his operations, the Contractor will be required to suspend dredging until the damage is repaired and approved by the Contracting Officer. Costs of such repairs and downtime of the dredge and attendant plant shall be at the Contractor's expense.

3.3.12 Pipeline Access

****
NOTE: Delete subparagraph if NOT APPLICABLE; however, select appropriate reference and/or fill in blanks IF APPLICABLE.
****

An overland pipeline easement is shown on the plans. In addition, the beaches of [ ], above mean high water line, may be used for pipeline access. The pipeline easement for the beach disposal area will be staked out for the Contractor by the [ ] personnel.

3.3.13 Near Beach Quality Sand

****
NOTE: Typical language for use in Canaveral Harbor.
****

It is anticipated that the material excavated from the channel west of Cut-2 Station 150+00 (including the Trident Access Channel and the Trident Turning Basin) is suitable for disposal in the Nearshore Disposal Area shown on the contract drawings. The average distance that the material will be transported to the Nearshore Disposal Area is approximately 6 statute miles and the maximum distance is approximately 9 statute miles. Any material that is determined to be unsuitable for disposal in the Nearshore Disposal Area shall be transported to and disposed in "Ocean Disposal Area -O".

3.3.13.1 Determination of Near Beach Quality Sand

****
NOTE: Typical language for use in Canaveral Harbor.
****

a. The Contractor shall provide personnel to perform inspections for near beach quality sand during dredging of those areas identified where suitable material may exist. A "short course" will be given, at no additional expense to the Contractor, by the Canaveral Port Authority to the sand inspectors to familiarize them with the textural and visual characteristics of near beach quality sand. This training must be completed by the Contractor's personnel prior to any dredging in areas where inspection is required. Further details on this training and its scheduling will be discussed at the Preconstruction Conference.

b. For all excavation west of Cut-2 Station 150+00, the determination that the material meets the requirements for nearshore disposal (no more than 20 percent silt) shall be made visually by Contractor-furnished inspector(s). The inspector(s) shall be on duty at all times during dredging operations in these reaches of the

channel. All material excavated east of Station 150+00 Cut-2 shall be transported to and deposited in "Ocean Disposal Area - O".

3.3.13.2 Logs

The Contractor shall keep a log for each load placed in the Nearshore Disposal Area. The log entry for each load shall include the date, the time of dump, the approximate volume of material in the load, the EPS coordinates at the dump location, and a map of the Nearshore Disposal Area showing the location of the dump. At the completion of dredging in the near beach quality sand reach of the channel, the log(s) shall be submitted to the Contracting Officer for forwarding to the appropriate State agency.

3.3.14 Barges

****
NOTE: Applicable to ALL PROJECTS; select appropriate reference.
****

Water and dredged materials shall not be permitted to overflow or spill out [of barges while transporting] [of barges or dump scows during transport] to the disposal site(s). Failure to repair leaks or change the method of operation which is resulting in overflow or spillage will result in suspension of dredging operations and require prompt repair or change of operation to prevent overflow or spillage as a prerequisite to the resumption of dredging.

3.3.15 Nearshore Disposal

****
NOTE: Typical language for use in Kings Bay.
****

Dredged material from Channel Cut 1N, Station 116+00 to Station 124+00 and Station 220+00 to Station 230+00 (Range 1000 to Range 1250), shall be placed in Disposal Area (D/A) N as shown on the contract drawings. Disposal Area N is located approximately 5 miles south of the southerly channel jetty, Kings Bay Entrance Channel, and extends from that point southerly approximately 2.4 miles. Exact X-Y location coordinates are shown on the contract drawings. The westerly/easterly limits of D/A N are the -10.0 foot MLW contour line and the -35 foot MLW contour line, respectively. Depth sounding instruments shall be used to verify location of westerly and easterly contour lines. Dredged material shall be placed uniformly throughout D/A N in as shallow water as possible with available dredging and disposal equipment.

3.3.16 Offshore Disposal

****
NOTE: Typical language for use in Kings Bay.
****

a. Dredged material from Channel Cut 1N Station 220+00 to Station 485+00, except for Station 220+00 to Station 230+00 (Range 1000 to Range 1250), shall be placed in Disposal Area (D/A) O, the designated ocean disposal area, as shown on the contract drawings.

b. The use of bottom dump barges or bottom dump dredges and

hydraulic unloading barges and hydraulic unloading hopper dredges to dispose of dredged material in the offshore disposal area will be permitted. Water and excavated material shall not be permitted to overflow or spill out of barges, dump scows, or hopper dredges while in route to the disposal site. Failure to repair leaks or change the method of operation which is resulting in overflow or spillage will result in suspension of excavation operations and require prompt repair or change of operation to prevent overflow or spillage as a prerequisite to the resumption of excavation. Material shall be placed in the offshore disposal area below the -30 MLW level, and within 1,500 feet of the center of the ODMDS.

3.3.17 Electronic Tracking System (ETS) for Ocean Disposal Vessels

****
NOTE: Delete entire subparagraph if NOT APPLICABLE; however, select appropriate reference IF APPLICABLE.
****

The Contractor shall furnish an ETS for surveillance of the movement and disposition of dredged material during [excavation and ocean disposal] [excavation and disposal (nearshore and ocean)]. This ETS shall be established, operated and maintained by the Contractor to continuously track in real-time the horizontal location and draft condition of the disposal vessel for the entire dredging cycle, including dredging area and disposal area. The ETS shall be capable of displaying and recording in real-time the disposal vessel's draft and location.

3.3.17.1 ETS Standards

The Contractor shall provide automated (computer) system and components to perform in accordance with EM 1110-1-2909. A copy of the EM can be downloaded from the following web site: http://www.usace.army.mil/inet/usace-docs/eng-manuals/em.htm. Horizontal location shall have an accuracy equal to or better than a standard DGPS system, equal to or better than plus/minus 10 feet (horizontal repeatability). Vertical (draft) data shall have an accuracy of plus/minus 0.5 foot. Horizontal location and vertical data shall be collected in sets and each data set shall be referenced in real-time to date and local time (to nearest minute), and shall be referenced to the same state plane coordinate system used for the survey(s) shown in the contract plans. The ETS shall be calibrated, as required, in the presence of the Contracting Officer at the work location before disposal operations have started, and at 30-day intervals while work is in progress. The Contracting Officer shall have access to the ETS in order to observe its operation. Disposal operations will not commence until the ETS to be used by the Contractor is certified by the Contracting Officer to be operational and within acceptable accuracy. It is the Contractor's responsibility to select a system that will operate properly at the work location. The complete system shall be subject to the Contracting Officer's approval.

3.3.17.2 ETS Data Requirements and Submissions

a. The ETS for each disposal vessel shall be in operation for all dredging and disposal activities and shall record the full round trip for each loading and disposal cycle. (NOTE: A dredging and disposal cycle constitutes the time from commencement of dredging to complete discharge of the material.) The Contracting Officer shall be notified immediately in the event of ETS failure and all dredging operations for

the vessel shall cease until the ETS is fully operational. Any delays resulting from ETS failure shall be at the Contractor's expense.

b. All data shall be collected and stored on 3 1/2-inch discs or CD-ROM(s) in ASCII format and shall be readable by MS Windows compatible software. Each dredging and disposal cycle shall be a separate and distinct ASCII file, labeled by the trip number. More than one file may be stored on the disc(s) or CD-ROM(s).

c. Data shall be collected, during the dredging and disposal cycle, every 500 feet (at least) during travel to the disposal area, and every minute or every 200 feet, whichever is smaller, while approaching within 1,000 feet and within the disposal area.

d. The required digital data to be collected for each dredging and disposal cycle includes the following:

(1) Trip Number
(2) Date
(3) Time
(4) Vessel ID
(5) Vessel Captain
(6) State Plane X Coordinate - in accordance with subparagraph c. above
(7) State Plane Y Coordinate - in accordance with subparagraph c. above
(8) Vessel Draft
(9) Type of Disposal Vessel
(10) Exact State Plane X and Y coordinate at start of dump
(11) Volume of Material Disposed

e. Plot Reporting (2 types):

(1) Tracking Plot - For each disposal event, all data collected while the disposal vessel is transiting to and from the disposal area shall be plotted in chart form, in 200-foot intervals, to show the track and draft of the disposal vessel approaching and traversing the disposal area. The plot shall identify the exact position at which the dump commenced. A sample Track and Draft Plot Diagram is on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

(2) Scatter Plot - Following completion of all disposal events, a single and separate plot will be prepared to show the exact disposal locations of all dumps. Every plotted location shall coincide with the beginning of the respective dump. Each dump shall be labeled with the corresponding Trip Number and shall be at a small but readable scale. A sample Scatter Plot Diagram is on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

(3) Summary Table - A spreadsheet which contains all of the information described in subparagraph d. above shall be prepared and shall correspond to the exact dump locations represented on the Scatter Plot Diagram. A sample Summary Table spreadsheet is on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

f. All digital ETS data shall be furnished to the Contracting

Officer within 24 hours of collection. The digital plot files should be in an easily readable format such as Adobe Acrobat PDF file, Microstation DGN file, JPEG, BMP, TIFF, or similar. The hard copy of the ETS data and tracking plots shall be both maintained onboard the vessel and submitted to the Contracting Officer on a weekly basis.

3.3.18 Placing of Dredged Material

****
NOTE: Delete if NOT APPLICABLE.
****

During placement of dredged material in the disposal areas, the Contractor will be required to provide constant radio contact between the dredge and the disposal areas. This will enable the Contractor's personnel at the disposal areas to immediately notify the dredge in the event of dike or pipeline failure. In the event of dike or pipeline failure, the dredging operations shall be immediately suspended and require prompt repair of the dike or pipeline as a prerequisite to the resumption of dredging.

3.3.19 Dredge Pipelines

****
NOTE: Delete entire subparagraph if NOT APPLICABLE.
****

3.3.19.1 Dredge Discharge Pipeline

The Contractor shall plainly mark the pipeline access routes with conspicuous stakes, targets and/or buoys to be maintained throughout the contract operations. A tight dredge discharge pipeline shall be maintained to prevent spilling of dredged material or dredge water outside of the disposal area. The Contractor shall provide and maintain radio communication between the dredge and the disposal areas and the dredge and the Contracting Officer. The pipeline shall be inspected at least twice daily for leaks. Failure to immediately repair leaks in the discharge pipeline will result in suspension of dredging operations and require prompt repair of pipeline as a prerequisite to the resumption of dredging. Any damage to private or public property resulting from the Contractor's operations shall be repaired by the Contractor at his expense.

3.3.19.2 Submerged Pipeline

In the event the Contractor elects to submerge his pipeline, the pipeline shall rest on the bottom, and the top of the submerged pipeline and any anchor securing the submerged pipeline shall be no higher than the required project depth for the channel in which the submerged pipeline is placed. Should the Contractor elect to use a pipeline material which is buoyant or semi-buoyant, such as PVC pipe or similar low density materials, the Contractor shall securely anchor the pipeline to prevent the pipeline from lifting off the bottom under any conditions. The Contractor shall make daily inspections of the submerged pipeline to ensure buoyancy has not loosened the anchors. The Contractor shall remove all anchors when the submerged pipeline is removed. The location of the entire length of submerged pipeline shall be marked with signs, buoys, lights, and flags conforming to U.S. Coast Guard regulations.

3.3.19.3 Floating Pipeline

Should the Contractor's pipeline not rest on the bottom, it will be considered a floating pipeline and shall be visible on the surface and clearly marked. In no case will the Contractor's pipeline be allowed to fluctuate between the surface and the bottom, or lie partly submerged. Lights shall be installed on the floating pipeline as required in paragraph SIGNAL LIGHTS above. The lights shall be supported either by buoys or by temporary piling, provided by the Contractor and approved by the Contracting Officer. Where the pipeline does not cross a navigable channel, the flashing yellow all-around lights shall be spaced not over 200 feet apart, unless closer spacing is required by U.S. Coast Guard personnel, in which case the requirements of the U.S. Coast Guard shall govern, at no additional cost to the Government.

3.3.20 Booster Pumps

****
NOTE: Delete if NOT APPLICABLE.
****

Any booster pumps installed by the Contractor shall be located at least 300 feet from any residential-type building or house. Booster pumps, their prime movers, and any auxiliary equipment shall be fitted or equipped with mufflers, noise control enclosures, or other engineering noise control methods, measures, and features such that steady noise emanating from this equipment does not exceed 85 decibels on the A scale at slow response, and impulsive noise does not exceed 140 decibels. Such items shall be maintained throughout the course of the work.

3.3.21 Misplaced Materials

****
NOTE: Applicable to ALL PROJECTS; select appropriate reference and fill in blanks.
****

[Materials deposited outside of the ODMDS disposal area(s) will be classified as misplaced material and will result in a suspension of dredging operations. Redredging of such materials will be required as a prerequisite to the resumption of dredging unless the Contracting Officer, at his discretion, determines that redredging of such material is not practical. If redredging of such material is not required then the quantity of such misplaced material shall be deducted from the Contractor's pay quantity. If the quantity for each misplaced load to be deducted cannot initially be agreed to by both the Contractor and Contracting Officer, then an average hopper/scow load quantity for the entire contract will be used in the determination.] [Materials deposited above the maximum indicated elevation or outside of the disposal area template shown will require the degrading or removal of such materials at the Contractor's expense. The Contractor will not be held responsible for erosion caused by waves after the material has been satisfactorily placed.] [In addition, the Contractor must notify the Contracting Officer and the Environmental Protection Agency within 24 hours of a misplaced dump or any other violation of the Site Monitoring and Management Plan for [ ] ODMDS. Corrective actions must be implemented by the next dump and the Contracting Officer must be informed of actions taken.]

3.4 REQUIRED DEPTH, ALLOWABLE OVERDEPTH, AND SIDE SLOPES

****
NOTE: Applicable to ALL PROJECTS.
****

3.4.1 Required Depth

The material actually removed from the designated areas to be dredged, to a depth of not more than the required depth shown on the drawings, will be estimated and paid for in accordance with the provisions contained in the subparagraphs "Measurement" and "Payment" of Section 01 22 00 MEASUREMENT AND PAYMENT.

3.4.2 Allowable Overdepth

To cover the inaccuracies of the dredging process, material actually removed from the designated areas to be dredged, to a depth below the required depth of not more than the allowable overdepth shown on the drawings, will be measured and paid for in accordance with the provisions contained in the subparagraphs "Measurement" and "Payment" of Section 01 22 00 MEASUREMENT AND PAYMENT.

3.4.3 Side Slopes

****
NOTE: Select appropriate reference but DO NOT use both.
****

[Side slope dredging will be required.] [Although dredging of side slope material may be necessary to provide the required project channel dimensions (depth and width), the side slopes shown on the drawings are provided for payment purposes only.] Side slopes may be formed by box cutting, step cutting, or dredging along the side slope. Material actually removed, within the limits approved by the Contracting Officer, to provide for final side slopes not flatter than that shown on the contract drawings, but not in excess of the amount originally lying above this limiting side slope, will be measured and paid for in accordance with the provisions contained in subparagraphs "Measurement" and "Payment" of Section 01 22 00 MEASUREMENT AND PAYMENT. Such amount will be estimated and paid for whether dredged in original position or by box cut dredging whereby a space is dredged below the allowable side slope plane on the bottom of the slope for upslope material capable of falling into the cut. End slopes and transition slopes will not be estimated or paid for under this contract. In such cases, a 0 horizontal on 1 vertical will be used with no upslope allowance provision applied outside the required prism.

3.4.4 Excessive Dredging

It is recognized that the limits of dredging need to extend beyond the pay prism in order to remove material from within the pay prism. Therefore, the limits of active dredging may exceed the limits of the pay prism in vertical dimension as well as horizontal dimension to the extent necessary to remove material from the pay prism. Indirect impacts (sideslope sloughing, etc) may extend even beyond the limits of active dredging. Nevertheless, material taken from beyond the limits of the pay prism as described in subparagraphs "Allowable Overdepth" and "Side Slopes" above will be deducted from the total amount dredged as excessive overdepth

dredging, or excessive sideslope dredging, for which payment will not be made. Nothing herein shall be construed to prevent payment for the removal of shoals performed in accordance with the applicable provisions of the paragraphs FINAL EXAMINATION AND ACCEPTANCE or SHOALING of this Section.

3.4.5 Areas to be Dredged

Based on information currently available to the Government, areas known to require dredging are depicted on the drawings as hatched areas. The actual areas to be dredged may vary from the hatched areas shown in the drawings. In order to provide the required project dimensions within and throughout the project limits shown on the drawings, the Contractor shall remove material located within the project limits as directed by the Contracting Officer, regardless of whether the material is located in a hatched area or not. Payment for all dredged material dredged from a hatched area will be made at the applicable contract unit price. Payment for all material dredged from a non-hatched area may be made at the applicable contract unit price; however, the Contractor may request an adjustment to the contract unit price in accordance with DFAR Clause 252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT and/or FAR Clause 52.243-4 CHANGES of Section 00700 CONTRACT CLAUSES in Volume 1.

3.5 SURVEYS

****
NOTE: Applicable to ALL PROJECTS. First bracket is for Government conducted surveys; second bracket is for Contractor-conducted surveys; select appropriate reference.
****

3.5.1 General

The Contracting Officer shall be notified, in writing, 10 days in advance of the need for pre-dredging and after-dredging surveys. Surveys will be performed in accordance with the paragraph [QUANTITY SURVEYS] [QUANTITY SURVEYS - ALTERNATE I] of Section 00700 CONTRACT CLAUSES in Volume 1; [paragraph LAYOUT OF WORK of Section 01 11 00 SUMMARY OF WORK;] Section 01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL; EM 1110-1-1000, EM 1110-1-1002, EM 1110-1-1003, EM 1110-1-1004, EM 1110-1-2909, and EM 1110-2-1003; FBPSM; and, TSS. A copy of the EM's can be downloaded from the following web site: http://www.usace.army.mil/inet/usace-docs/eng-manuals/em.htm. A copy of the TSS can be downloaded from the following web site: https://tsc.wes.army.mil.

3.5.2 Contractor Representative

The Contractor or his authorized representative will be notified when soundings and/or sweepings are to be made. All in-place measurement surveys and final acceptance sweep surveys will be performed with a representative of the Contractor on board the Government platform during the full execution of the survey. No in-place measurement or final acceptance sweep survey will be performed without a representative of the Contractor on board the survey vessel. The Contractor's representative shall be fully knowledgeable in offshore construction subsurface surveying procedures, techniques, equipment, and horizontal and vertical calibration methods, and state-of-the-art horizontal and vertical accuracy limitations. The Contractor's representative shall observe and review, in

progress, the adequacy and accuracy of the survey for in-place payment purposes, and for the potential existence of collusion, fraud, or obvious error in the data.

3.5.3 Survey Certification

a. Immediately upon completion of any survey, the Contractor's representative shall, based on his on-site review of the survey execution, determine that the survey contains no evidence of collusion, fraud, obvious error, and that subsequent horizontal and vertical corrections are accurately annotated on the subsurface record.

b. The Contractor's authorized representative shall bring aboard the survey vessel a blank copy of the Certification Statement and shall attest to an acceptable survey by signing the Certification Statement before leaving the vessel. Sample copy of the Certification Statement is on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

c. In the event the Contractor's authorized representative observes (and quantifies) specific documentary evidence of either fraud, collusion, or obvious error, the survey will be immediately rerun. Resurveys will totally supersede any previously run survey and will be run over the full reach of any particular Acceptance Section.

d. If acceptability is not acquired after performing one resurvey of an Acceptance Section, a meeting shall be held between the Contractor and the Contracting Officer to expeditiously resolve the issue causing rejection of the survey. Contractor equipment and personnel standby time to resolve acceptability of the survey shall be at the Contractor's expense.

e. In no case shall a previously unacceptable survey be later judged acceptable by the Contractor; unless such a reassessment/reevaluation is performed within 24 hours after the original survey, and prior to initiating any resurvey action based upon identifiable collusion, fraud, or obvious error.

f. Should the Contractor or his authorized representative refuse to certify to the acceptability of a survey for contract payment without identifiable collusion, fraud, or obvious error, then the following actions will follow:

(1) Preconstruction (pre-dredging) Survey: Excavation shall not commence until representatives of the Contractor and Contracting Officer have met and resolved the basis for refusal of certification. Should the Contractor commence excavation prior to obtaining an acceptable survey, he shall be liable for any excavation performed. If a resurvey is performed, and accepted, prior excavation will not be measured, estimated, or paid for.

(2) Post-Construction (after-dredging) Survey: The 3-week survey window allowed under subparagraph "Measurement" of Section 01 22 00 MEASUREMENT AND PAYMENT will be indefinitely extended until a final survey is accepted. Any material accretion which might occur due to such a time extension will neither be measured, estimated, or paid for.

(3) Refusal to Certify: Contractor equipment and personnel

standby time to resolve his refusal to certify to the acceptability of a survey when there is no identifiable collusion, fraud, or obvious error shall be at the Contractor's expense and resultant delays shall not be the basis for time extensions of the contract.

g. Intermediate surveys taken between the pre-dredging and post-dredging surveys will not be considered for the purposes of determining quantities for final payment and acceptance of the area dredged.

3.5.4 Tide Data

****
NOTE: Typical language for use in Kings Bay and Fernandina Harbor Entrance Channel only. BE SURE TO CHECK ON POC AND PHONE NUMBER SHOWN IN SUBPARAGRAPH BELOW.
****

3.5.4.1 Real Time Kinematic (RTK) GPS

RTK GPS will be used for determining Real Time water levels (tide corrections). The Contractor is responsible for providing an RTK capable GPS receiver on board the vessel for all surveying and dredging operations. The Contractor is also responsible for providing a radio/modem in order to receive carrier-phase corrections from the Corps-owned RTK GPS reference station located at the bath house at the west end of the Fort Clinch fishing pier. Radio frequencies should be obtained from Mr. Michael Hensch at 904-534-0694. The Contractor will be instructed as to the proper use of this system by Corps personnel.

3.5.4.2 Kinematic Tidal Datum

A file listing the separations between the Reference Ellipsoid and the Chart Datum (Mean Lower Low Water) will be provided to the Contractor for entry into the hydrographic survey software. A Tidal Datum Diagram showing the relationship between NAVD 88 and Mean Lower Low Water is shown in the contract drawings. NAVD 88 will be referenced in all new surveys and new contract documentation as related to this contract.

3.5.4.3 Non-Operational Reference Station

In the event that the reference station becomes non-operational, the Contractor shall call the point of contact indicated in the paragraph "Real Time Kinematic (RTK) GPS" above. The Government will take measures to ensure correction of any problems with the GPS equipment located at the bath house within 72 hours of notification.

3.6 INSPECTION

****
NOTE: DREDGING/SHORE PROTECTION/BEACH EROSION CONTROL PROJECTS ONLY - additional specific requirements may be added as necessary. Check with Con-Ops Division before using.
****

3.6.1 Quality Assurance Representative (QAR)

The QAR shall be notified prior to the establishment of horizontal control work (baseline layout, ranges, station flags, shore-based control for EPS/RPS, etc.) and vertical control work (tide staff(s), upland cross sections, construction elevations top/invert, maximum/minimum elevations of dredged materials within disposal area(s), etc.), but the presence or absence of the QAR shall not relieve the Contractor of his responsibility for proper execution of the work in accordance with the specifications. The Contractor will be required:

****
NOTE: IN THE FOLLOWING SUBPARAGRAPH, DELETE BRACKETED INFORMATION ON SHORE PROTECTION/BEACH EROSION CONTROL PROJECTS ONLY.
****

a. To furnish, on the request of the Contracting Officer or any QAR, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary in inspecting and supervising the work. [However, the Contractor will not be required to furnish such facilities for the surveys prescribed in the paragraph FINAL EXAMINATION AND ACCEPTANCE of this Section.]

****
NOTE: In the following subparagraph, select appropriate method of disposal.
****

b. To furnish, on the request of the Contracting Officer or any QAR, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant, and to and from the [disposal area] [beach placement].

3.6.2 Failure to Comply

In conjunction with the Clause INSPECTION OF CONSTRUCTION of Section 00700 CONTRACT CLAUSES of Volume 1, should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the Contracting Officer and the cost thereof will be deducted from any amounts due or to become due the Contractor.

3.7 FINAL EXAMINATION AND ACCEPTANCE

****
NOTE: The following clause is for DREDGING CONTRACTS ONLY. DO NOT USE FOR SHORE PROTECTION/BEACH EROSION CONTROL PROJECTS.
****

3.7.1 Final Examination of Work

As soon as practicable and no later than three (3) weeks after the completion of the entire work or any section thereof (if the work is divided into sections) as in the opinion of the Contracting Officer will not be subject to damage by further operations under the contract, such work will be thoroughly examined at the cost and expense of the Government by sounding or by sweeping, or both, as determined by the Contracting

Officer. Should any shoals, lumps, or other lack of contract depth be disclosed by this examination, the Contractor will be required to remove same by dragging the bottom in accordance with the subparagraph "Bed Leveling" below or by dredging at the contract rate of dredging.

****
NOTE: Use the paragraph below for construction dredging projects (new work) only. Delete this paragraph on maintenance dredging projects.
****

[The minimum depth is the shoalest depth within a cell. The cell size used for minimum depth is three by three feet. Shoals above grade must be assessed based on multiple hits, a minimum of 3 hits, over successive passes. A single high spot unsupported by other data would be disregarded. This data will follow guidance as described in Table 11-2 page 11-44 Dredge Clearance & Acceptance Surveys (Shoal/Strike detection) of EM 1110-2-1003. The purpose of the minimum depth dataset was, and is, used only for the purpose to accept an area for clearance to the required prism (required depth), shoal strike detection purposes, and not to be used for dredging payment purposes.]

The Contractor or his authorized representative will be notified when soundings and/or sweepings are to be made and will be permitted to accompany the survey party. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than two sounding or sweeping operations by the Government over an area be necessary by reason of work for the removal of shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent soundings or sweeping operations will be charged against the Contractor at the rate of $5,500 per day for each day in which the Government plant is engaged in sounding or sweeping and/or is enroute to or from the site or held at or near the said site for such operation.

3.7.2 Bed Leveling

Bed leveling by dragging the bottom with a drag bar or other apparatus shall be allowed only in the designated dredging areas shown on the drawings. Dragging in areas outside of the designated dredging areas shown on the drawings is specifically prohibited without written approval of the Contracting Officer.

3.7.3 Bed Leveling - Reporting and Documenting

The contractor shall fully document all bed leveling activity including date and time for initiation and completion of bed leveling. All bed leveling activity shall be documented on the Contractor's Quality Control Report (QCR).

3.7.4 Final Acceptance

Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

3.8 SHOALING

****
NOTE: The following clause is for DREDGING CONTRACTS ONLY. DO NOT USE FOR SHORE PROTECTION/BEACH EROSION CONTROL PROJECTS.
****

If, before the contract is completed, shoaling occurs in any section previously accepted, including shoaling in the finished channel because of the natural lowering of the side slopes, redredging at contract price, within the limits of available funds may be done if agreeable to both the Contractor and the Contracting Officer.

3.9 CONTINUITY OF WORK

****
NOTE: USE THE FIRST PARAGRAPH IN MAINTENANCE DREDGING PROJECTS OR THE SECOND PARAGRAPH IN CONSTRUCTION DREDGING PROJECTS. DELETE THE OTHER.
****

[No payment will be made for work done in any area designated by the Contracting Officer until the full depth required under the contract is secured in the whole of such area, unless prevented by in-situ rock, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured, except by decision of the Contracting Officer. Should any such nonadjacent area be excavated to full depth during the operations carried on under the contract, payment for all work therein may be deferred until the required depth has been made in the area intervening. The Contractor may be required to suspend dredging at any time when, for any reason, the gauges or ranges cannot be seen or properly followed.]

[No payment will be made for work done in any area designated by the Contracting Officer until the full depth required under the contract is secured in the whole of such area, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured, except by decision of the Contracting Officer. Should any such nonadjacent area be excavated to full depth during the operations carried on under the contract, payment for all work therein may be deferred until the required depth has been made in the area intervening. The Contractor may be required to suspend dredging at any time when, for any reason, the guages or ranges cannot be seen or properly followed.]

3.10 NOISE CONTROL

****
NOTE: DELETE IF NOT APPLICABLE; HOWEVER, SELECT APPROPRIATE REFERENCE IF APPLICABLE.
****

All [hauling and excavating] equipment and [dredges] [dredge/barges], boats, and tugs used on this work shall be equipped with satisfactory mufflers or other noise abatement devices. The Contractor shall conduct his operations so as to comply with all Federal, [State] [Commonwealth] [Territorial] and local laws pertaining to noise. The use of horns and whistle signals shall be held to the minimum necessary in order to ensure as quiet an operation as possible.

3.11 DREDGE CERTIFICATION

****
NOTE: DELETE IF NOT APPLICABLE.
****

During dredging operations the Contractor's dredge shall have a current Certificate of Inspection issued by the U.S. Coast Guard.

3.12 GENERAL DREDGING SAFETY REQUIREMENTS

****
NOTE: The following requirements should be placed in all MAINTENANCE DREDGING contracts as required by the District Safety Managment Action Plan (SMAP). Delete each reference to harbors that do not apply. All projects (maintenance and construction dredging) shall include the Stand-by Tug clause, and Auxillary Plant and Equipment clause. Definitions shall be included in all projects where applicable. See PERMITS for further restrictions and environmental windows.
****

3.12.1 Dredge Plant Restriction Definitions

To increase the safety of dredges on Federal contracts, the contract plans and specifications may identify a location within the Federal channel (usually indicated by a channel station or navigation aid) requiring minimum equipment standards. This is a Certification Required Line (CRL). The following are specific designations that may apply to this contract.

3.12.1.1 Certification Required Line - Coast Guard Inspected (CRL-C)

A designation of Certification Required Line - Coast Guard inspected (CRL-C) means only dredges with a current U.S. Coast Guard Certificate of Inspection for the intended use of the vessel will be allowed to work seaward of this line under this contract. The inspections shall include both topside and drydock. The topside inspection shall have occurred with 15 months prior to the date that dredging commences. The drydock inspection shall have occurred within 3 years prior to the date that dredging commences.

3.12.1.2 Certification Required Line - Load Line (CRL-L)

A designation of Certification Required Line - Load Line (CRL-L) means only dredges having a current Load Line Certification issued pursuant to 46 CFR 41-47 will be allowed to work seaward of this line under this contract. Load Line inspections may be performed by either the American Bureau of Shipping (ABS) or Des Nortke Veritas (DNV) on behalf of the U.S. Coast Guard. The statutory requirement for Load Line Certification is 46 U.S.C. 5101-5116.

3.12.1.3 Certification Required Line - Hopper (CRL-H)

A designation of Certification Required Line - Hopper (CRL-H) means only hopper dredges with a current U.S. Coast Guard Certificate of Inspection for the intended use of the vessel will be allowed to work seaward of this

line under this contract. The inspections shall include both topside and drydock. The topside inspection shall have occurred with 15 months prior to the date that dredging commences. The drydock inspection shall have occurred within 3 years prior to the date that dredging commences.

3.12.2 Certification of Attendant and Auxiliary Plant

In addition to the requirements of EM 385-1-1, Section 19, Subparagraph 19.A.01.b., all supporting floating plant for dredging operations (to include, but not limited to, anchor barges, deck barges, deck/work barges, tug boats, tenders, workboats, pump-out barges, derrick barges, and spider barges) shall have a current marine survey inspection certificate. The only exceptions to this requirement include pipeline support pontoons or floats and outboard skiffs under 16 feet in length. The certification shall have been issued by a licensed and accredited marine surveyor within the previous 12 months. The marine surveyor must be accredited by either the National Association of Marine Surveyors or the Society of Accredited Marine Surveyors. No attendant plant that does not have a valid certification shall be used on this contract. The certifications and inspection shall be appropriate for the intended use of the plant in all locations specified in this contract. Unless the Contracting Officer decides otherwise, documentation of the inspection for each piece of plant shall be provided prior to issuance of Notice to Proceed.

3.12.3 Minimum Tow-Boat Requirements

In addition to the requirements of EM 385-1-1, Section 19, Subparagraph 19.A.03.e., when dredging with non-self propelled dredges seaward of the CRL-L or CRL-C, the contractor shall provide the following.

a. One primary towboat of adequate size and horsepower to move any and all attendendant and support plant against privailing tides, currents, and winds during normal and severe weather conditions. The towboat shall be available within the project work area at all times.

b. A towboat(s) of adequate size and horsepower to move the dredge(s) against prevailing tides, currents, and winds during normal and severe weather conditions shall be able to mobilize to the work site, and move the dredge(s) to safe harbor with 4 to 6 hours of first notification.

3.12.4 Harbor Specific Dredging Restrictions

****
NOTE: The project engineer should review the District SMAP on file in its entirety to ensure accuracy and completeness. Choose the applicable harbor(s).
****

3.12.4.1 Jacksonville Harbor

A CRL-L is established at Cut-14/15, Station 0+00, and applies seaward of this point to Bar Cut-3, Station 191+75. A CRL-C is established at Bar Cut-3, Station 191+75 (located at the easterly junction of the Mayport Navy Basin), and applies seaward. Dredging westward of Cut-14/15, Station 0+00 will have no CRL restriction.

3.12.4.2 Fernandinal Harbor/Kings Bay Entrance Channel

A CRL-H is established at Navigation Aid R-24 (approximate Cut-1N, Station 71+00); however, the following guidance will be the standard practice when maintenance dredging the channel: Use of a hopper dredge to perform maintenance dredging will be standard practice. If dredging cannot be performed or completed during the allowable winter dredging window, which is currently from 1 December through 15 April, a request for hopper dredge exemption will be made to the National Marine Fisheries Service (NMFS) to allow dredging outside of the window. Approval from South Atlantic Division (SAD) will also be required if dredging is required after 31 March. Should NMFS and/or SAD reject the request for a dredging window extension beyond thier respective end dates, then a cutter-section dredge will be allowed to work in the entrance channel, and the CRL-H identified above will be converted to CRL-C.

3.12.4.3 Miami Harbor

A CRL-C is established at Cut-2, Station 60+00, which is located approximately at channel marker G"13".

3.12.4.4 Palm Beach Harbor

A CRL-C is established in the Entrance Channel Cut at Station 58+00, which is located slightly west of channel markers R"6" and G"5".

3.12.4.5 Port Everglades Harbor

A CRL-C is established in the Entrance Channel at Station 65+00, which is located approximately 200 feet west of channel markers R"6" and G"7".

3.12.4.6 Tampa Harbor

A CRL-L is established in the Entrance Channel at Station 80+00 Egmont Cut 2, which is located between Egmont Key and Mullet Key.

3.12.4.7 Ft. Pierce Harbor

A CRL-C is established at Cut-1, Station 106+00, which is approximately 300 feet west of channel markers R"8" and G"7".

3.12.4.8 Canaveral Harbor

No CRL is established due to the unique environmental conditions at Canaveral Harbor.

3.12.4.9 San Juan Harbor

A CRL-H is established for dredging in Cuts 1 and 2. A CRL-C is established for dredging in Cuts 3, 4, 5 and 6. Inland of the CRL-C line, dredges that do not posses a Coast Guard certification may work in accordance with standard Coast Guard regulation.

3.12.4.10 Ponce Harbor

A CRL-C is established for the entire channel due to the lack of sheltered waters.

3.12.4.11 St. Lucie Inlet

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NOTE: St. Lucie Inlet, St. Augustine Inlet, Ponce De Leon Inlet, and Bakers Haulover Inlet are shallow draft harbors.
****

Dredging in the months of November through April will require that the dredge maintain full Coast Guard certification. There are no harbor specific dredging restrictions in the months of May through October.

3.12.4.12 Other Shallow Draft Harbors

There are no harbor specific dredging restrictions in other shallow draft harbors.

3.13 CONSTRUCTION FORMS AND DETAILS

From the Jacksonville District Home Page, click the links ENGINEERING DIVISION, then CONSTRUCTION FORMS AND DETAILS. See web site address http://www.saj.usace.army.mil/Divisions/Engineering/FormsDetails.htm.

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